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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,831	02/27/2004	Yijia P. Bao	03-214-A	8249
20306	7590	02/02/2006	EXAMINER	
MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP			MARTINELL, JAMES	
300 S. WACKER DRIVE			ART UNIT	
32ND FLOOR			PAPER NUMBER	
CHICAGO, IL 60606			1634	

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/789,831

Applicant(s)

BAO ET AL.

Examiner

James Martinell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2004&amp; 2005</u> . | 6) <input type="checkbox"/> Other: ____.  |

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The references crossed out on the Information Disclosure Statements filed August 2, 2004 (seven separate entries), August 12, 2004, November 12, 2004, and June 13, 2005 are duplicate entries. The 41 references submitted but not listed on any Information Disclosure Statement have not been considered (see 37 CFR § 1.98(a)(1)).

The drawings are objected to for the following reasons.

- (a) Each of the Figures contains large amounts of text. The text should be removed from the drawings and be included in the detailed description of the invention.
- (b) The lettered parts of the Figures do not correspond to the letters used in the Brief Description of the Drawings. Applicants should amend the Figures and Description appropriately so that each of the lettered parts of the Figures is included in the Brief Description of the Drawings (*e.g.*, Figures 1, 2, and 9) and that no reference is made in the Brief Description of the Drawings to a lettered part of a Figure that does not appear in a Figure (*e.g.*, page 7, line 5 refers to Figure 5 (A)). Finally, applicant should be consistent in the use of upper or lower case letters between the Figures and the Description.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities. The instant application does not comply with the Sequence Rules (37 CFR §§1.821-1.825) in that sequences without SEQ ID NOs appear in at least the following locations:

- (a) page 23, lines 27 and 30,
- (b) pages 24-32, and
- (c) page 33, line 29.

A proper Sequence Listing and appropriate amendments to the specification are required in order for any response to this Office action to be considered a complete response. See also MPEP 2420-2435.

Appropriate correction is required.

Claim 1 is objected to because of the following informalities: "said contracting" should be changed to "said contacting". Appropriate correction is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague and indefinite.

- (a) The recitation of "for the detection of multiple portions of a target nucleic acid, the detection of multiple different target nucleic acids, or both" (claims 1 and 28) is vague and indefinite because the phrase is not a structural limitation. As a result, the properties of the nucleic acids are not clearly defined.
- (b) The recitation of "for the detection of multiple portions of a target ribonucleic acid, the detection of multiple different target ribonucleic acids, or both" (claims 14 and 21) is

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vague and indefinite because the phrase is not a structural limitation. As a result, the properties of the nucleic acids are not clearly defined. Applicants may have intended claim 21 to recite "cDNA" in place of "ribonucleic acid".

- (c) The recitation of "The method" (claims 29 and 30) is vague and indefinite because these claims depend from claim 28 which claim is not a method claim, but is drawn to a kit.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11, 14-18, 20-25, and 27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by either one of Taton et al I (J. Am. Chem. Soc. 123: 5164 (2001) or Taton et al II (Science 289: 1757 (2000)). Each of the references teaches a sandwich nucleic acid molecular hybridization assay

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that uses an immobilized capture sequence that hybridizes to a target nucleic acid that in turn hybridizes to an oligonucleotide probe that is attached to a nanoparticle (*e.g.*, see Taton et al I, Scheme 1 and page 5164, first three paragraphs and Taton et al II, Abstract, Scheme 1, and page 1757, paragraph 1 through page 1758 paragraph 1). The claims describe no more than the reference.

Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Taton et al I (J. Am. Chem. Soc. 123: 5164 (2001) or Taton et al II (Science 289: 1757 (2000)) in view of Molecular Biology Reagents/Protocols 1992, United States Biochemical Corporation, 1991, Cleveland, Ohio, pages 218-219. Each of Taton et al I and Taton et al II teaches a sandwich nucleic acid molecular hybridization assay that uses an immobilized capture sequence that hybridizes to a target nucleic acid that in turn hybridizes to an oligonucleotide probe that is attached to a nanoparticle (*e.g.*, see Taton et al I, Scheme 1 and page 5164, first three paragraphs and Taton et al II, Abstract, Scheme 1, and page 1757, paragraph 1 through page 1758 paragraph 1). Molecular Biology Reagents/Protocols 1992, United States Biochemical Corporation, 1991, Cleveland, Ohio, pages 218-219 teaches the collection of various components for convenience in the implementation of biochemical processes. It would have been obvious for one of ordinary skill in the art at the time the invention was made to collect the materials needed to perform the assays of either one of Taton et al I or Taton et al II into a kit as taught in Molecular Biology Reagents/Protocols 1992, United States Biochemical Corporation, 1991, Cleveland, Ohio, pages 218-219 for mere convenience.

Claims 12, 13, 19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Taton et al I (J. Am. Chem. Soc. 123: 5164 (2001) or Taton et al II (Science 289: 1757 (2000)) in view of applicants' admitted state of the prior art (*e.g.*, instant application, paragraph bridging pages 19-20). Each of Taton et al I and Taton et al II teaches a sandwich nucleic acid molecular hybridization assay that uses an immobilized capture sequence that hybridizes to a target nucleic acid that in turn hybridizes to an oligonucleotide probe that is attached to a nanoparticle (*e.g.*, see Taton et al I, Scheme 1 and page 5164, first three paragraphs and Taton et al II, Abstract, Scheme 1, and page 1757, paragraph 1 through page 1758 paragraph 1). Applicants acknowledge (paragraph bridging pages 19-

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20) the use of silver nanoparticles and silver staining in nucleic acid assays to be old. It would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute the admittedly old silver nanoparticles and optionally silver staining for the gold nanoparticles of either one of the primary references in order to detect the target nucleic acids that have hybridized to the immobilized capture sequences of either one of the primary references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Martinell whose telephone number is (571) 272-0719.

The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be e-mailed to [james.martinell@uspto.gov](mailto:james.martinell@uspto.gov). Since e-mail communications may not be secure, it is suggested that information in such requests be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (571) 272-0745.

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**OFFICIAL FAX NUMBER**

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any Official Communication to the USPTO should be faxed to this number.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

  
**James Martinell, Ph.D.**  
**Primary Examiner**  
**Art Unit 1634**

*1/30/06*